

**Rooting Ability:**

Roots grow easily under the proper environment starting from propagation that comprises a temperature of about 70-75 degrees Fahrenheit, 50% relative humidity, 35-55% moisture content in the soil or media, and appropriate lighting.

Feeder roots grow 360 degrees, are typically found 3" inches below ground level, and stay in the top 18" inches of soil. Brace roots typically stay within the center of the plant and can go as deep as 3 feet for maximum stability in windy conditions.

**Timing of Duration of Flowering Session:**

The timing of the flowering duration is dependent on the degrees latitude positioned on the globe. The dates are dependent on the northern or southern hemisphere. Northern Hemisphere is used below:

40-50 degrees latitude typically begins flowering stage July 5-July 15 to full maturity September 10-September 20; 30-40 degrees latitude typically begins flowering stage July 15- July 25 to full maturity September 20-September 30; 15-30 degrees latitude a later and longer flowering duration is assumed; 0-15 degrees latitude flowering will occur any time of the year because of consistent 12-13 hours of sunlight/day.

In another embodiment, temperature and time ranges may be decreased or increased to account for location change.

**Botanical Description of CW2A:****Bark:**

tan colored with inner bast fibers running vertical between the inner woody core and bark.

**Buds:**

1"-5" inches thick,  
long and resembling spears,  
spiral pattern early but much more full bud like structures later on,  
medium on density scale.

**Blossoms:**

occur predominantly in males but are present in nearly all females,  
yellow oval sac shapes,  
Male sacs open in early flowering stages of week 2 through week 4,  
Females will open later from week 4 through week 6.

**Leaves**

are developed in early vegetative stage,  
leaves are jagged, long and skinny,  
large leaves, larger leaves if started from seed.

**Fruit:**

described in the buds,  
full essence and character is not recognized until week 6 in flower.

**Frangrance:**

earthy and light smoky with a hint of piney mint.

**Disease Resistance:**

resistant to common viruses and fungal diseases,  
In the wrong soil conditions, fungal diseases can occur, susceptible to molds and mildews if grown indoors without proper ventilation and high relative humidity (constantly greater than 60% relative humidity).

**Drought Resistance:**

more tolerant in clay loams and higher organic content soils.  
less tolerant in sandy loams with lower organic content soils.

**Cold Resistance:**

not resistant to cold though germination and emergence. If the plant is exposed to less than 45 degrees Fahrenheit for longer than 6 hours, shock and much lower germ rate will occur.

more resistant to cold in later vegetative and mature state. The plant can withstand between 40 and 45 degrees Fahrenheit for long durations but will show signs of stress and cold shock.

very resistant to cold only late in flowering stage with greater root structures. The plant can withstand several days of frost and temperatures as low as 29 degrees Fahrenheit for less than 5 hours. In this condition, the plant will show extreme shock but will not die.

**Damp Resistance:**

Plant can take moist and damp conditions without showing stress if in outside conditions and planted in the ground.

Plant does not like to be in oversaturated soil for long periods. Stress will occur showing an intense shrinking and curling of the leaves and nodes.

**Productivity (Sunlight, Soil, Water):****Sunlight:**

too much direct sunlight does not affect the plant in a harmful way.  
does need a minimum of 6 hours of direct sunlight for healthy and fruitful flowering cycle.

**Soil:**

most productive in sandy loams where water can drain easily. This is only most productive with proper irrigation.

pH of 6.8-7.4 is ideal for outdoor farming.

pH of 6.4-6.7 is ideal for indoor and pH of 5.5-5.8 for hydroponic systems.

**Water:**

Levels of trace minerals are effective and calcium levels of 200-400 ppm. PH of at or close to 7 is ideal for outdoor farming. PH 6.4-6.7 is best indoors and lower for hydroponics.

**Precocity (Flowering, Fruiting, or Ripening Early):**

Volatile compounds and plant terpenes are at their peak 2-3 weeks before plant maturity.  
Cannabidiol compounds peak 2-3 weeks before seed maturity.

**Vigor:**

Plant shows vigorous growth in late vegetative stage and the most in the first 2 weeks of flowering stage.

**Coloration:**

deep forest green at optimal health,  
Plant shows different discoloration patterns at signs of nutrient deficiency,  
yellowing in late flowering stage is natural.

**Market Use:**

medical drugs  
foods (e.g. salad oil, margarine, food supplements, etc.)  
drinks (e.g. infused beverages, sport drinks, etc.)  
technical products (e.g. oil pants, varnishes, fuel, print inks, solvents, coatings etc.)  
personal hygiene products (e.g. cosmetics, soap, shampoo, bath gels, etc.)  
hemp-infused pet treats  
textile (e.g. apparel, diapers, fabrics, denim, socks, shoes, fine textiles, twine, rope, carpets, geotextiles, etc.)  
building materials (e.g. fiberboard, insulation material, cement blocks, etc.)

**The invention claimed is:**

1. A new and distinct cultivar of hemp plant named 'CW2A' substantially as shown and described herein.

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